

REMARKS

In the Office Action, Claims 1-20 are pending and were examined. In this Response, Claims 1, 2, 10, 11, 16 and 17 are amended. Applicants respectfully request reconsideration of pending Claims 1-20 in view of at least the following remarks.

I. Claim Objections

The Examiner objected to Claim 17 because Claim 17 should be dependent on Claim 16 to correctly provide claim antecedent basis. However, the portion of Claim 16 referred to by the Examiner is incorporated into amended Claim 11.

In view of the above, Applicants amend Claim 17 to depend from Claim 11. Accordingly, in view of Applicants' amendment, Applicants request that the Examiner withdraw the objection to Claim 17.

II. Claims Rejected Under 35 U.S.C. §102

The Examiner has rejected Claims 1-8, 11-14, 16 and 18-20 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,316,957 to Ang et al. ("Ang"). Applicants respectfully traverse this rejection.

Regarding Claims 1 and 11, Claims 1 and 11 disclose the following claims features which are neither expressly or inherently disclosed by Ang:

A pull-down circuit coupled to the signal termination device, the pull-down circuit including a pull-down compensation resistive element, wherein the pull-up and pull-down compensation resistive elements to provide analog compensation of output driver signal slew rate against device impedance variation such that a slew rate of a driver output signal is within a predetermined slew rate range.

Ang is generally directed to a method for a dynamic termination logic driver with improved impedance control. In contrast with Claims 1 and 11, Ang does not disclose or suggest pull-up and pull-down compensation resistive elements to provide analog compensation of the output driver signal slew rate against device impedance variation, much less that a slew rate of a driver output signal is within a predetermined slew rate range, as in Claims 1 and 11. Ang does

disclose selectively enabling and disabling a plurality of output elements so that a direct current impedance of a parallel combination of a plurality of output elements is within a predetermined percentage of the impedance of a transmission line, and sizing the plurality of output elements to account for a predetermined range of PVT conditions (*see* col. 3, lines 8-14), however, that is something completely different from analog compensation of output driver signal slew rate against device impedance variation, such that a slew rate of a driver output signal is within a predetermined slew rate range, as in Claims 1 and 11.

According to the Examiner, the above recited feature of amended Claims 1 and 11 is disclosed by Ang at Figure 3 which shows a pre-driver, and column 5, lines 5-33, lines 48-52 and 60-67; column 6 lines 1-3; column 8, lines 1-46, column 17, lines 7-67 and column 18, lines 1-17. (*See* page 3 first paragraph of the Office Action mailed January 22, 2007.) Applicants respectfully submit that the passages referred to by the Examiner are directed to a enabling each bit, in a predetermined sequence, to reduce prevailing net impedance by a fixed percentage (to achieve at least a 7 percent improvement by enabling each bit in the predetermined sequence), such that the supplemental output elements 808 are selectively enabled and disabled to compensate for DC impedance variations due to PVT variations. (*See* col. 18, lines 1-15.)

Neither this section nor any other disclosure in Ang teaches or suggests analog compensation of output driver signal slew rate against device impedance variation, such that a slew rate of a driver output signal is within a predetermined slew rate range, as in amended Claims 1 and 11. Ang does disclose controlling the slew rates of the voltages on the gates of output transistor elements 508, 808, 1208 and 1408 to control the rates of enabling and disabling the pull-up and pull-down output circuits 420, 1106 and 1108 (*see* col. 21, lines 6-10), however, that is not the same as providing analog compensation of an output driver signal slew rate against device impedance variations, such that a slew rate of a driver output signals within a predetermined slew rate range as in amended Claims 1 and 11.

In contrast to Claims 1 and 11, Ang discloses:

The net result is that the slew rate for turning on of the pull-down circuit 204 is not quite as well controlled as that for turning off of the pull-down circuit 204, but well enough to achieve the overall performance (*see* col. 25, lines 53-56.)

Based on the above cited passage, we submit that controlling the slew rate of the voltages on the gates of output transistor elements 508, 808, 1208 and 1408 to control the rates of enabling and disabling of the pull-up and pull-down of output circuits 420, 1106 and 1108 (*see Ang* col. 21, lines 6-10) fails to disclose, teach or suggest analog compensation of output driver signal slew rate against device impedance variation, such that a slew rate of a driver output signal is within a predetermined slew rate range, as in amended Claims 1 and 11. In other words, we submit that controlling the slew rates for turning off and on the pull-up and pull-down circuits 420 of pull-down circuit 204 does not provide a slew rate for a driver output signal that is within a predetermined slew rate range, as in amended Claims 1 and 11.

For each of the above reasons, therefore, amended Claims 1 and 11 and all claims that depend on amended Claims 1 and 11 patentable over the cited art. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the §102(b) rejection of Claims 1-8, 11-14, 16 and 18-20.

DEPENDENT CLAIMS

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicant's silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

III. Claims Rejected Under 35 U.S.C. §103

The Examiner has rejected Claims 9 and 15 under 35 U.S.C. §103(a) as being obvious over *Ang* in view of Applicants' admitted prior art ("AAPA"). Applicants respectfully traverse this rejection.

Regarding Claims 9 and 15, Claims 9 and 15 depend from independent Claims 1 and 11, respectively. Applicants respectfully submit that the Examiner's citing of AAPA fails to rectify the deficiencies of *Ang* to teach or suggest a pull-down circuit coupled to the signal termination device, the pull-down circuit including a pull-down compensation resistive element, wherein the pull-up and pull-down compensation resistive elements to provide analog compensation of output driver signal slew rate against device impedance variation, as recited by Claims 1 and 11.

Hence, Applicants respectfully submit that Claims 1 and 11, for at least the reasons provided above, are also patentable over the combination of Ang in view of AAPA.

Consequently, Claims 9 and 15, based on their dependency from Claims 1 and 11, respectively, are also patentable over combination of Ang in view of AAPA. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claims 9 and 15.

V. Allowable Subject Matter

The Examiner has indicated that Claims 10 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims.

Applicants respectfully thank the Examiner for recognizing the allowability of Claims 10 and 17. However, for at least the reasons provided above, Applicants respectfully submit that such claims, based on their dependency from independent Claims 1 and 11, are also patentable over Ang in view of AAPA, as well as the references of record. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the objection to Claims 10 and 17, and allow such claims, based on their dependencies from Claims 1 and 11.

CONCLUSION

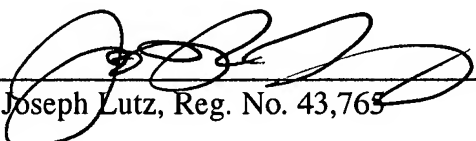
In view of the foregoing, it is believed that all claims now pending (1) are in proper form, (2) are neither obvious nor anticipated by the relied upon art of record, and (3) are in condition for allowance. A Notice of Allowance is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,

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Dated: 4/6/07

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CERTIFICATE OF MAILING:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage on the date shown below, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.


Kumiko Alexander

4/6/07
Date